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The Cloud Based Compiler for Multi Language

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Abstract:
Compilers are used to run programs and convert them from a text format to executable format. A compiler that is to be installed manually on every system physically requires a lot of space and also configuring of it if not installed using default parameters. Also once a program is compiled it becomes platform dependent. It is also not easy to carry the same program code to multiple systems if situation doesn't permit the usage of a single system. Another drawback is that we would need to install a different complier on each language on which we wish to work

Keywords: Compiler, cloud, azure, multiple language support

1. Introduction
Cloud computing is a model for enabling convenient, on demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort. Our project aims to create an online compiler which helps to reduce the problems of portability of storage and space by making use of the concept of cloud computing. The ability to use different compilers allows the programmer to pick up the fastest or the most convenient tool to compile the code and remove the errors. Moreover a web based application can be used remotely through any network connection which is platform independent. The errors/Output of the compiled program can be stored in a more convenient way. Also the trouble of installing a compiler to each computer is avoided. Thus, these advantages make this application ideal for conducting online examinations.

2. Literature Survey
As Cloud computing is a model for enabling convenient, on demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort. We decided to make a project that aims to create an online compiler which helps to reduce the problems of portability of storage and space by making use of the concept of cloud computing. The ability to use different compilers allows the programmer to pick up the fastest or the most convenient tool to compile the code and remove the errors. Moreover a web based application can be used remotely through any network connection which is platform independent. The errors/Output of the compiled program can be stored in a more convenient way. Also the trouble of installing a compiler to each computer is avoided. Thus, these advantages make this application ideal for conducting online examinations. Cloud based compiler mainly deals with providing a platform to compile and execute programs that is not dependent on any platform related restriction or complication. The compiler that we are going to implement would be a Java compiler that is hosted on a private cloud implemented on Windows Azure platform
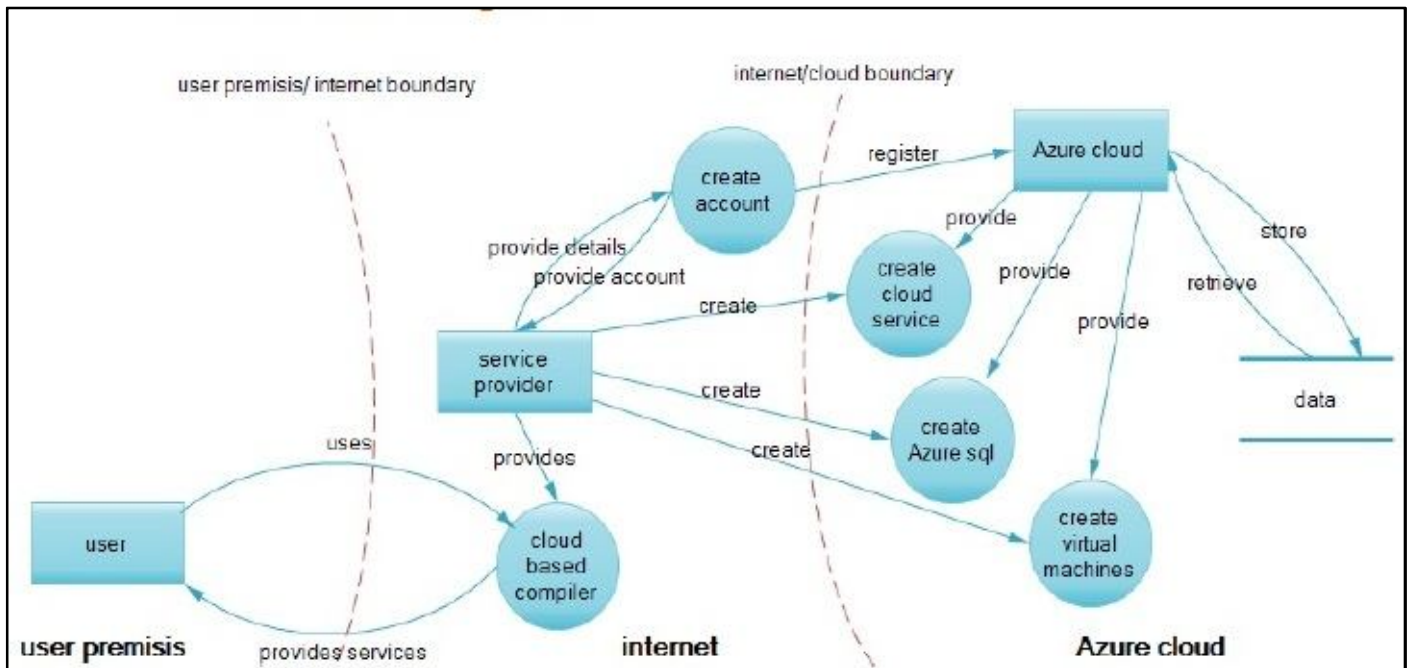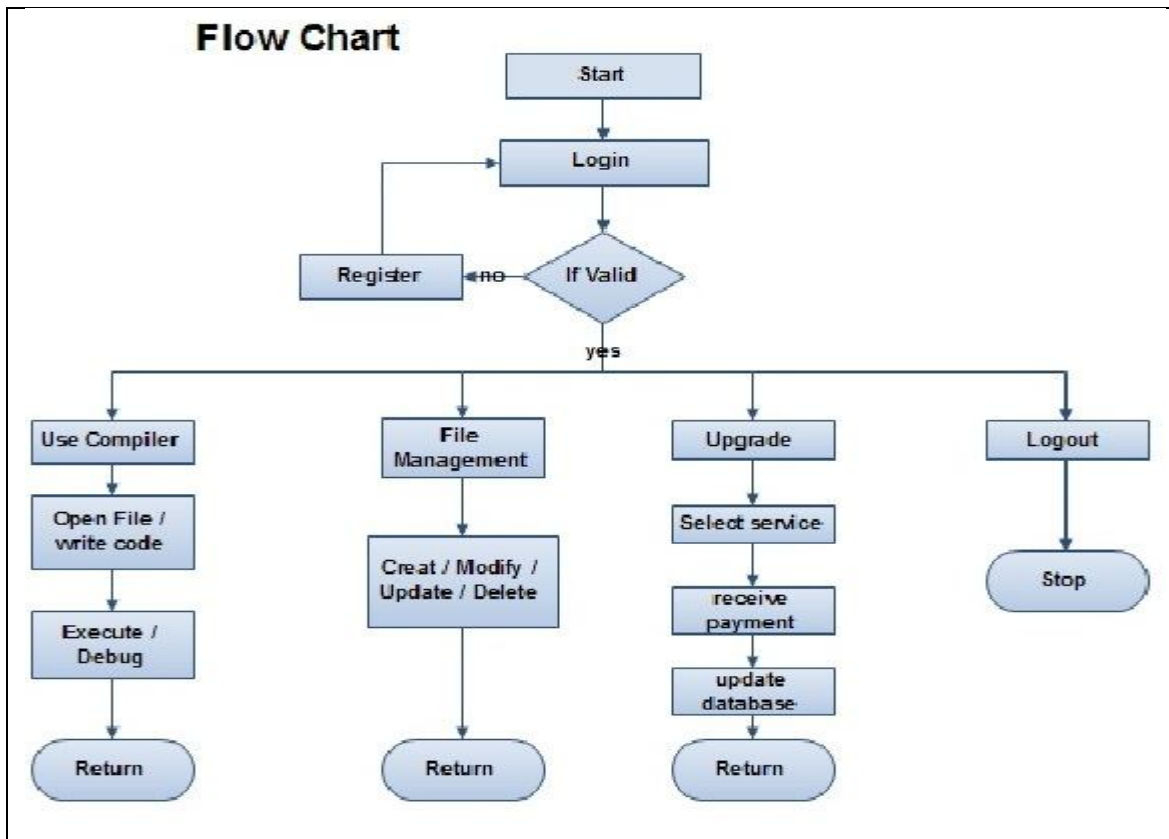
Figure 1: DFD for proposed system

Figure 2: Flow Chart for proposed method

3. Characteristics
Cloud computing exhibits the following key characteristics:
- Agile development: improves with users' ability to re-provision technological infrastructure resources.
- Application programming interface: (API) accessibility to software that enables machines to interact with cloud software in the same way the user interface facilitates interaction between humans and computers. Cloud computing systems typically use REST-based APIs.

- Low total Cost: is claimed to be reduced and in a public cloud delivery model capital expenditure is converted to operational expenditure. This is purported to lower barriers to entry, as infrastructure is typically provided by a third-party and does not need to be purchased for one-time or infrequent intensive computing tasks. Pricing on a utility computing basis is fine-grained with usage-based options and fewer IT skills are required for implementation (in-house
- Device and location independence: enable users to access systems using a web browser, regardless of their location or what device they are using (e.g., PC, mobile phone). As infrastructure is off-site(typically provided by a third-party) and accessed via the Internet, users can connect from anywhere.
- Virtualized and dynamic: technology allows servers and storage devices to be shared and utilization be increased. Applications can be easily migrated from one physical server to another.

4. Discussion & Conclusion

The main reason for creating the project is to provide a centralized compiling scheme. Also, it will act as a centralized repository for all the codes written. The other major advantage that this system will have over the others is that it will make the user's system light weight, i.e. there will be no need to maintain separate compilers at the client side. Also, the process of maintenance and distribution of dynamic user names and passwords will be greatly simplified. Also, authentication and personalized task distribution will be made possible. A compiler, which is the heart of any computing system, transforms source code from a higher level language to a lower, machine level language. This is mainly done in order to create executable files which can then be run in order to execute the program and its instructions.As compared to the current scenario where each compiler required to be installed on each machine separately this would eliminate the need to install compilers separately. So we can check our code on the centralized server. Another advantage of such project is that whenever the compiler package is to be upgraded it can be done easily without again installing it on each and every machine

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